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**Sumak Kawsay, or the concept of Living Well, and perceptions
about natural, urban and rural areas: The case of Cuenca (Ecuador)**

Antonio Malo-Larrea^{1 2}

Affiliations:

¹ Institut de Ciència i Tecnologia Ambiental, Universitat Atònoma de Barcelona, 08193
Bellaterra, Spain

² Escuela de Biología, Ecología y Gestión, Universidad del Azuay, Cuenca, Ecuador.

Contact: Antonio Malo-Larrea <amalo@uazuay.edu.ec>

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Institut de Ciència i Tecnologia Ambientals (ICTA)

Edifici Cn, Campus UAB

08193 Cerdanyola del Vallès, Spain

Tel: (+34) 935812974

<http://icta.uab.cat>

icta@uab.cat



ABSTRACT

This research explores critical environmental concepts from the standpoint of political ecology. It contrasts the Ecuadorian Kichua indigenous concept of Sumak Kawsay (i.e., living well), with discourses about natural, urban and rural areas. Sumak Kawsay was included in Ecuador's 2008 constitution as an alternative to the neoclassical idea of development. This work reveals interesting insights from a variety of social and political viewpoints from both rural and urban areas. The research is based on the medium sized city of Cuenca, which is located in the southern Ecuadorian Andes. We used an adaptation of the Q Method to investigate stakeholders' perceptions. Four remarkably well-defined viewpoints were revealed. Although these views contrast strongly with Sumak Kawsay, it is possible to transform this paradigm in the foundation of Cuenca's public policies and institutional structure.

Keywords: Political Ecology; Human Ecology; Perceptions; Territory; Urban; Rural; Environmental Discourses; Sumak Kawsay; Living well; Ecuador; Cuenca



1. Introduction

This paper assesses the importance of perceptions in understanding environmental public policies and institutional structures. It will be argued that subjectivity, people's perceptions and socio-ecological discourse are part of the complexity of socio-ecological systems. As a consequence, these topics are important in socio-ecological and territorial studies. However, subjectivity research will not be a magic wand that clarifies a new, holistic understanding of socio-ecological systems. Nevertheless, subjectivity does explore dimensions that are not frequently included in socio-ecological and territorial studies. Subjectivity research, complemented with ecological economics and its societal metabolism, landscape and political ecology, have the potential to make important contributions to human ecology studies.

1.1. Nature

A central idea in this study is that *Nature* is a powerful notion, which has been produced, problematized (i.e., the construction of a problem), humanized, categorized, systematized and politicized (Whiteside, 2002) under different cultural and scientific paradigms as well as within specific power relationships. It is these paradigms and power relationships that appear to shape the understanding of *environmental issues* and sustain environmental and territorial planning public policies and related institutional structures (Hajer, 1995; Whiteside, 2002; Leff, 2004).

Different rhetoric is used to describe *Nature*, and the idiom that is chosen for these descriptions is closely linked to the exercise of societal power (Whiteside, 2002). The subjectivity of the notion of nature is expected to be closely related to other perceptions, such as landscape, territory, biodiversity, urban spaces, rural spaces, and urban-rural relationships. Indeed, as Hajer (1995) asserts, the natural environment that is discussed in environmental politics is not equivalent to the environment *out there*; human beings and their societies create images of reality which are dependent upon certain discourses. An exploration of the



different notions of nature is truly important for understanding the economic, political and cultural processes that govern the human metabolization of the non-human (i.e., nature) (Heynen, 2003).

What is *real* is different from *reality* because our knowledge has been structured by experiences, languages, images and fantasies; *reality* is particular, while the *real* cannot be metaphorized (Hajer, 1995). Therefore, different individuals within the same species or among distinct species create different realities. According the Eco-field hypothesis (Farina and Belgrano, 2006), landscapes can be understood at three different levels. The first level is the Neutrally Based Landscape, which is composed of information that is not converted into a specific meaning. It can also be interpreted as *the real*. The second level is the Individual Base Landscape, which is created by the distinct perception of surrounding objects by specific bio-sensors. Finally, there is the Observer Based Landscape, which emerges when *cognitive* sensors are used. For human cultures, the observer based landscape can be considered to be equivalent to *reality* in landscape terms.

Modern society's research into the non-human world has been accomplished under a positivistic scientific logic, which implies that each part of the universe is studied separately under the assumption that this will lead to an understanding of the universe as a whole (Whiteside, 2002; Leff, 2004). Therefore, to properly investigate the *reality* of what was called *nature*, it was broken into categories (i.e., water, forests, soil, air, the wild, etc.) (Hajer, 1995). This process had the effect: of homogenizing the non-human world (Leff, 2004). The phenomenon could be interpreted as a positive feedback loop that empowered and perpetuated the notion of a nature-society dichotomy. Consequently, during modernity and its enlightenment, societies have produced an intangible and discursive external being that can be protected, blamed and dominated on behalf of humanity's well-being (Kaika, 2003; Swyngedouw and Kaika, 2003; Gandy, 2004; Leff, 2004).

According to Grove's (Grove, 2009) interpretation of Latour's critique on modernity (1993), modernity is a tacit contradiction. Modernity structures nature



and society as ontologically distinct categories of being, while it simultaneously produces a proliferation of nature–society hybrids. This nature-society dichotomy facilitates the use of nature as a source of crisis, and, more importantly, it allows specific political and economic decisions that affect both nature and society (Kaika, 2003). Undoubtedly, these ideas of nature are a key issue in the study of human ecology because of their profound political implications. The ecological processes behind the production of new environments through political-economic dynamics are fundamental for societies' reproduction and quality of life (Heynen, 2003). Modernity has transformed nature-society relationships and created a *metropolitan nature*. A new cultural sensibility towards nature has been generated. Nature has been transformed into a source of leisure and contemplation instead of the source of materials that satisfy human necessities, as it was previously understood. This process also implies a radical modification in the perceptions of the cyclical interactions between urban spaces and their rural surroundings (Gandy, 2004).

In this context, the idea that problems and conflicts are created perceptions must be considered. Problems must be created to generate policies. Therefore, policy-making can be understood as the practice of problem creation. It is the praxis of processing fragmented and contradictory statements in such a way that the problems produced are solvable and can be addressed by institutions (Hajer, 1995). It is important to be aware that deconstructing the rationality which has triggered the eco-destructive forces of an unsustainable world and reconstructing ecological lucidity are not just theoretical and philosophical endeavors. They must be processes of knowledge emancipation that surpass the power of a single, globalizing knowledge and fertilize the local diversity of understandings (Leff, 2004).

1.2. Ecological Modernization

In the 1970's, the idea of the *ecological crisis* arose. Intimately linked to this notion was the perception of *ecological conflict*. This perception was produced by a particular interpretation of the evident degradation of the non-human world. Policies tended to regulate socio-ecological conflicts. Consequently,



environmental issues were translated into specific public policies, and a particular institutional structure was built for each entity that was categorized as a key natural resource; for example, a water management policy and a water management department were established for water issues. Under this scheme, ecological conflicts were handled *ex post*; the environmental policies were designed for remediation and recuperation instead of prevention (Hajer, 1995).

During the 1980's, the critical ecological discourse of the 1970's was transformed into what Hajer (1995) called *ecological modernization*, in which the shift in discourse was more than merely a technical response to the ecological crisis. The shift in discourse was a political strategy that was based on a belief in progress as well as modern techniques and social engineering problem solving skills (Hajer, 1995; Martinez-Alier, 2003). Furthermore, it was based on the same principles that were viewed as solutions during 1970's: efficiency, technological innovation, technical-scientific management, procedural integration and coordinated management. Under the *ecological modernization* paradigm, environmental degradation was no longer seen as a paradox of modernity, as it was conceptualized during the 1970's. This ecological modernization paradigm appears to be the root cause of the environmental problems and public policies in the western world (Hajer, 1995).

Hajer (1995) defined ecological modernization as "...the discourse that recognizes the structural character of the environmental problématique, but nonetheless assumes that existing political, economic and social institutions can internalize the care of the environment". This characterization is similar to Martinez Alier's (2003) definition of eco-efficiency. The concept clearly demonstrates that ecological modernization does not perceive social contradictions. It is a technocratic and modernist approach to ecological crises that is based on the conviction that ecological conflicts can be solved with a new techno-institutional structure. Ecological modernization does not address the systemic characteristics of capitalism that make it an unmanageable, squandering system (Hajer, 1995). Ecological modernization is the offspring of enlightenment and capitalism, and sustainable development has become its flag. Sustainable development is not framed as fundamental social change but



rather as the adjustment of basic institutional practices (Fischer and Hajer, 1999).

The idea of development has been refashioned with new clothes and euphemized with different adjectives, such as ethno, local or sustainable. However, the concept has not questioned capitalist accumulation in and of itself but only incorporates a social, cultural or ecological dimension into economic growth (Latouche, 2007).

The *reality* of unlimited progress and growth is now challenged by the concepts of entropy and the limits of our planet, and this has begun a process of re-signification of the universe to produce alternative rationalities (Leff, 2004). The ambiguity of the nature/humanity distinction can be approached with complexity sciences in such a way as to call attention to the interaction of human values with the scientific understanding of the natural world (Whiteside, 2002).

Previously, the exploration of alternative concepts for socio-ecological relationships was important. The societal metabolism concept is one of a variety of interesting concepts. Human societies can be seen as a self-organized, dissipative system where structures and functions depend on a continuous input of energy and matter that is taken from the environment and a continuous outflow of wastes returning to the environment (Giampietro et al., 2000). Therefore, thermodynamics are critical for the study of societies. This view can be amplified to include information flows, given that the societal metabolism can be understood as an inter-connected network of inflows and outflows that depend on the external input of energy, materials and information; societies are organic, circulatory and homeostatic dynamic systems (Gandy, 2004). Societal metabolism can also be seen through a different lens for the purpose of including the actions of social forces. Thus, societal metabolism can be interpreted as an ecological-historical process, which is the very basis of human societies and a permanent condition for their existence (Swyngedouw, 2006). This last interpretation of societal metabolism explains the historical production of non-human, rural and urban landscapes (Gandy, 2004).



The institutional efforts of ecological modernization are apparently based on a partial analysis of the societal forces that have produced the ecological crisis. The latter is a consequence of capitalism, particularly the reliance on economic growth and its continuous creation of new markets (Fischer and Hajer, 1999). Political ecology, ecological economics, individual perceptions, citizen participation, knowledge emancipation and complexity sciences are important interpretive tools for overcoming *ecological modernization* and its notion of sustainable development.

1.3. Ecuador

Within this context, the goal of this work is to study perceptions about nature, territory, landscape, biodiversity, urban, rural and rural-urban relationships in Cuenca, Ecuador. Ecuador is currently one of the most interesting development models (Real News, 2012). However, ironically, it is rarely mentioned. Here, we will study the discourses and perceptions of nature, but first, we must establish the context in which they are produced. This requires an understanding of Ecuadorian political history and its geographic reality.

Ecuador is a small Andean country, located between Colombia and Peru. Currently, Ecuador is facing massive institutional changes, not only at the political and economic levels but throughout nearly every governmental level. The 2008 Ecuadorian constitution is a notable example of such changes. For instance, it introduces the Andean indigenous concept of *Sumak Kawsay* as an alternative to development and progress; it also recognizes nature's rights and defines Ecuador as a plurinational state with a vast ethnic diversity and numerous indigenous nations.

Another very significant and remarkable case in point is the Yasuní-ITT proposal, which aspires to leave a significant amount of Ecuador's oil reserves in the ground to protect the territory of two un-contacted indigenous communities and save Yasuní National Park, one of the most biodiverse areas in the world (Vogel, 2009). Considering the economic losses and level of greenhouse gas emissions that avoiding such development entails, Ecuador



asks that the international community compensate it with half of the present value of the potential extraction of these oil reserves.

Ecuador has moved from an extremely weak, financially constrained state during the 1980's to an innovative, new, plurinational country in 30 years. Ecuador was categorized as a banana republic, and it has been, in fact, the world's top banana producer for several periods during the 20th and 21st centuries. Despite this perception, the banana republic label hides some very interesting local and national socio-ecological processes, which are veiled within Ecuadorian history.

During Von Humboldt's (1769-1859) journey through the territory that is now known as Ecuador, it is said that he referred to its people as *beggars seated over gold* because of the contrast between their extreme poverty and the country's amazing natural richness. This phenomenon is known as the *abundance curse*; the great availability of natural resources, particularly mineral and oil reserves, is closely linked to distortions in economic structures, such as an allocation of production factors that is characterized by a regressive distribution of the national budget and a concentration of wealth in a small minority of people (Acosta, 2009). The abundance curse has been affecting the Ecuadorian economy during most of its history.

Colonial power relations fueled the allocation of primary resources, such as land and water, and their influence has continued through modern times. The state has been an instrument of domination for the Ecuadorian *aristocracy*. Rather than an institution for representation, governance has been articulated via laws and norms that were oriented to forbid and restrict civil rights. Elites controlled the state through the limitation of political rights, a condition that existed until the late 1970's. For example, illiterate people cannot vote. This limitation marginalized most of the indigenous, afro-Ecuadorian and rural populations. The Ecuadorian aristocracy perpetuated and consolidated a structure of paternalistic dependence for women, indigenous people and slaves. The aristocracy and the church had to protect them from themselves because of their lack of political rights (Albán, 2011).



In 1982, there was a radical change in the Ecuadorian economy. This year was the end of a period of sustained economic growth that began after the Second World War, derived from a banana boom, an importation substitution process (promoted by the United Nations Economic Commission for Latin America-ECLA) and the 1970's oil boom. The period from 1982-2006 was unstable, not only because of the tremendous weight of Ecuador's external debt on its economy but also due to a combination of natural disasters (1983, 1987 and 1998) and severe economic problems (low oil prices in 1986 and 1998 and a bank crisis in 1999). In 2000, after the bank crisis, the Ecuadorian economy was dollarized. This 24-year period was characterized by economic public policies that were focused on structural adjustments and the promotion of exportation. Ecuador entered 2006 with an income per capita similar to that in 1982, an increase in social inequity, declining general social conditions and unrecovered economic growth (Larrea, 2006).

Ecuadorian external debt allowed the International Monetary Fund (IMF), World Bank (WB) and Inter-American Development Bank (IADB) to direct and control the Ecuadorian State modernization process (Ramírez, 2012), which was characterized by a de-institutionalization of the state through a weakening of its capacity to control and the near elimination of its planning functions (SENPLADES, 2007). This new imposed institutional structure was used by local elites (old and new) to shield their power and to lock out their privileges (i.e., through state corporatization) (Ramírez, 2012). This phenomenon has been termed *criollo*¹ *neoliberalism* (SENPLADES, 2007).

These 24 years were, in addition, a time for maturation, emergence, reproduction and empowerment of a diversity of social movements: indigenous, afro-Ecuadorians, women, human rights, homosexuals and ecologists, among many others. A social movement can be understood as a mobilization processes that demands alternative development and a different society. Social movements connect groups and people through their demands, and, furthermore, social movements are different from organizations, regardless of

¹Criollo is a Spanish local term originally used to refer to the children born of Spanish colonialists in Ecuador. Now it is used to refer to Ecuadorian things in general.



the leading role that organizations can have within them (Bebbington et al., 2008). Ecuadorian social movements, with the indigenous movement as the main protagonist, produced a non-violent overthrow of three governments (1997, 1999 and 2005). In 2005 a coalition of citizens, self-named *forajidos*,² comparable to the current Spanish *Indignados* or to the *Occupy Wall Street* movement, and social movements was formed. After several weeks of nationwide dissemination and, finally, a massive, self-convoked mobilization, the social movements and *Forajidos* overthrew president Lucio Gutierrez (León, 2009).

The demands of the Ecuadorian social movements converged on a new Ecuadorian constitution (2008), with the indigenous movement as a key actor (Flores, 2008). The new Ecuadorian constitution implied a radical change in the country's institutional setup. This state transformation involved all of its entities at all governmental levels (national, regional, provincial and municipal) and, consequently, affected environmental institutions and policies.

1.4. Sumak Kawsay

Most likely one of the most important innovations in the Ecuadorian constitution is the introduction of the *Sumak Kawsay* principle, a Kichua term (i.e., Ecuadorian Andean indigenous language) that can be translated as *living well*. *Sumak Kawsay* was introduced as an alternative to the idea of development (Hernández, 2009; Roa-Avendaño, 2009; Houtart, 2010; Kowii, 2011; Tortosa, 2011; Radcliffe, 2012).

Sumak means the ideal, the beautiful, the goodness, the realization, and *Kawsay* can be translated as life. However, it is not just life; *Kawsay* implies a dignified life, a life in balance and harmony between the human being and the universe (which implies the western concepts of nature, territory, land, biodiversity, natural resources, environment, etc.). *Sumak Kawsay* (hereafter SK) can be understood as the plenitude of life (Kowii, 2011).

² *Forajido* is the Spanish word for outlaw. This name was taken by social movements because, after an all-night protest with empty pots in 2005 outside the Ecuadorian president's family home, he complained by saying that a group of *forajidos* did not let him sleep.



According to Kowii (2011), to understand SK, it is important to study other ideas that are related to it:

- *Pakta Kawsay*: The individual, family and communal balance. *Pakta Kawsay* not only refers to the community members' stability but it also implies their emotional balance.
- *Alli Kawsay*: Harmony. Work and *Pakta Kawsay* sustains the harmony between the person, his/her family and his/her community. These dimensions spread to the environment and its flows and influence both space and place.
- *Wiñak Kawsay*: Creativity. The previous values motivate people to recreate and create. Creativity is sustained by the *tinkuy*, which is the search for innovation, and implies a constant exploring and confronting of the elements of existence. This process produces new elements and innovation.
- *Samay*: Serenity.

The combination of the previous elements produces *runakay*, which means *to know how to be*. The *runakay* notion synthesizes the realization of human beings, and, in fact, *runa* means human being. All of these concepts are contained in *Sumak Kawsay* (Kowii, 2011).

The concept of sustainability, or a harmonious human-nature interdependence, is embedded in SK (Roa-Avendaño, 2009), with a significant difference: sustainability is an ideal, while balance and harmony are a prerequisite for SK. SK necessarily breaks the nature-society dichotomy, integrating them into the same system (i.e., the universe). As a consequence, SK is impossible without a healthy ecological sub-system (Hernández, 2009; Roa-Avendaño, 2009).

The introduction of the SK concept into the Ecuadorian constitution is a declaration that indicates the intention to follow a post-development path (Radcliffe, 2012). SK is simultaneously an ancient and new paradigm. Such a deep philosophical concept involves a completely new problematization of cultural, social, productive, economic and socio-ecological relations



(Hernández, 2009). SK must be translated in new policies that can cope with it (Houtart, 2010; Radcliffe, 2012), in keeping with Hajer's ideas.

1.5. Cuenca

The background described above is fundamental in understanding the present environmental management of Ecuador and Cuenca. Cuenca's environmental management is considered exemplary within the country; government authorities, NGOs and environmental management experts have repeated this statement in numerous lectures, talks and seminars.

Cuenca is a medium-size city located in the Ecuadorian Southern Andes. Its urban area is 2,500 meters above sea level. The city administration (i.e., municipality) manages a territory of 331,664 ha; 6,771 ha (2%) is urban territory; 12,013 ha (3.6%) is periurban territory; and 312,880 ha (94.3%) is rural territory (IMC, 2012). Cuenca's population is 505,000, with 331,888 (65.6%) considered urban and 173,697 (34.6%) considered rural (INEC, 2011). Geographically, this city's identity is conspicuous, due to the four Andean rivers that go through Cuenca. Additionally, Cuenca's four rivers are of national importance because they are the main tributaries of the Paute river, where 41% of Ecuadorian electricity is produced (CELEC, 2012).

Cuenca's local government successfully manages 8,770 ha of native ecosystems as municipally protected areas to protect watersheds. Cuenca was the first city in Ecuador to apply this policy. As a consequence, this policy has been touted as a good example city administration (Barnett, 1988; Artiga, 2008). Furthermore, the Ministry of Environment has delegated the management of a 29,000 ha National Park (Cajas National Park) to the city. Cajas National Park is the origin of 2 of the 3 rivers from which the city takes water (Artiga, 2008).

One of Cuenca's administrative priorities since the late 1980's has been to guarantee the provision of water. To accomplish this task, the city manages the three river basins that provide potable water for Cuenca (Lloret, 2002; Artiga,



2008). These rivers are under severe land use restrictions (Artiga, 2008), which are an important source of current and potential conflicts.

The Ecuadorian state, at all levels of governmental, is in the midst of a remarkable transformation process. Equally important is the maturation, emergence, reproduction and empowerment of old and new social movements, with a motivating citizen appropriation of the new Ecuadorian constitution (2008). As a result, Cuenca, due to its environmental management background, constitutes a case study of significant interest.

The Ecuadorian transformation process sets up a challenging case to study socio-ecological relationships with systemic approaches, to learn from mistakes and successes, and to propose alternative paths for environmental management.



2. Methods

The methodology for this study was inspired by the Q Method, hereafter Q, although it is not the same as Q due to its variations.

2.1. The Q Method

Q explores the innate contradictions of human subjectivity. The statements that are used by Q come directly from studied subjects, in contrast with a poll, where questions are set up by the researcher (Osses, 2009).

Q was created by the physicist and psychologist William Stephenson in the early 1930's to study subjectivity (Brown, 1998; Osses, 2009; Castellà, 2010, and it has become an important tool for land planning (Nijnik et al., 2009) and rural studies (Zografos, 2007).

Q correlates people, not tests (Brown, 1993). It factorizes peoples' answers, not the items questioned (Neblo, 2009). Q analyzes the answers to a pool of statements and groups people based on common patterns in their answers (Zografos, 2007). As Brown (1998) explains, in Q, a set of tests is measured by individuals; this approach contrasts with R methodologies, which measure a population of individuals with different tests. Interpreting these ideas, we can say that the data universe in Q is the pool of statements from a society about a topic.

There are two possible sampling approaches: ready-made samples, which are normally used to follow previous studies, and the naturalistic approach, which is recommended for initial studies (McKeown and Thomas, 1988; Osses, 2009). The naturalistic samples obtain their concourse from direct communication with stakeholders and key actors through written or oral sources. In this approach, the concourse of statements is more strictly related to participants' views because it is based on respondents' own thoughts (McKeown and Thomas, 1988). In this study, a naturalistic approach was used to obtain the Q concourse of statements.



Several steps are required for the application of Q (Brown, 1993, 1998; Zografos, 2007; Osses, 2009):

1. First, Q requires a starting concourse of statements, which must be reduced to a manageable number (Q set of statements).
2. Second, the Q set of statements must be classified and ranked by the selected participants in the study; every single person must rank a complete Q set. Each ranked Q set is known as a Q sort; one Q sort represents one specific participant.
 - a. Each statement is printed on a card.
 - b. Each card is shown to each of the participants.
 - c. Each participant must classify the cards into three groups: agree, disagree and not important.
 - d. Finally, participants must rank each statement by placing it in a matrix that has the same number of cells. Horizontally, the matrix follows a scale from disagreement to agreement. Each column represents the grade of conformity or discrepancy that the participant has with the ranked statement. The rows, on the other hand, represent nothing because there is no vertical hierarchy (figure 1).
3. The next step is the statistical analysis to identify common patterns among the Q sorts using a factor analysis (either a centroid analysis or a Principal Component Analysis (PCA)). Then, the results must be rotated, and, finally, the Q analysis obtains the factors. Each factor is interpreted as one discourse.
4. Finally, the data are interpreted, and each factor is verbalized according to the interviews and the verbal opinions of the participants. The results are several narrative discourses.



Figure 1: Example of a Q matrix for 36 statements with a -3 to +3 ranking scale

-3	-2	-1	0	1	2	3

2.2. Q adaptation for this study

Time restrictions on the participants in this study required an adaptation of Q to make its application more flexible and to maintain its statistical strength.

The participants were identified from a key stakeholder map, which was identified by the Planning Department from the city municipality.

To have an adequate statements concourse, this study used interviews with stakeholders and key actors as main sources and complemented them with an eight month (from January to August of 2011) written source review (i.e., newspapers, magazines, and official and academic publications). Seven in-depth, semi-structured interviews were made: four of the interviewees were from urban areas, and the other three were from rural areas. The interviewees were asked 12 questions about their understanding of nature, territory, landscape, biodiversity, rural areas, urban areas and their relationships.

This process produced a concourse of 200 statements, which was reduced to a set of 95 statements through a systematic method, eliminating repeats and retaining pairs of opposite statements. The ratio of statements to participants should be 1:3 (Osses, 2009).



The set of statements were organized alphabetically in a Likert matrix (Neblo, 2009). It is important to note that even though is standard to apply a forced normal distribution in Q sorts, Q analysis can also be used when the ranked statements do not have a normal distribution (Brown, 1971). With this type of matrix, each statement can be ranked from deep disagreement (-5) to total agreement (+5). The ranking scale included the *indifference or not important* (0) possibility. Additionally, each statement was printed on a single card.

Selected stakeholders and key actors represented national and local, public, academic and private institutions. Finally, 33 Q sorts were made: 19 for rural stakeholders and 14 for urban stakeholders.

Table No. 1: Key actors and stakeholders

Public Stakeholders	Academic Stakeholders	Private Stakeholders
Town hall	University of Cuenca Dean (Public)	Presidency of Cuenca's Commerce Consortium
Deputy Mayor Department	University of Azuay Dean (Private-Public funded)	Private Environmental Consultant
Cuenca's Consortium of Rural Parishes ³	Azuay University's Science and Technology department	
One of the 14 City Councilor	Azuay University's Biology, Ecology and Management Department	
Rural Parishes (13 of 21)		
Regional representation of Planning and Development Ministry (SENPLADES-Austro)		
Provincial representation of Environmental Ministry		
Management of Cuenca's Telephony, Potable Water and Sewer System Company		
Environmental Assistant Management of Cuenca's Telephony, Potable Water and Sewer System Company		
Management of Cajas National Park		

³ Rural Parishes are the most local Governmental level in Ecuador. Cuenca has 21 Rural Parishes.



The Q sorts were obtained using two different methods:

1. Card-Likert matrix combination: Stakeholders were asked to read and classify statements on the cards in three groups, i.e., agree, disagree or not important. Then, they were asked to read each card again and rank it in the Likert matrix.
2. Likert matrix: this method was used during workshops and with people with time restrictions (e.g., Cuenca's mayor). Participants were asked to read all of the statements in the matrix; then, they were asked to rank them in a second reading.

The results were analyzed with PQMethod Software (Schmolck, 1992), eliminating four Q sorts due to inconsistencies (e.g., a Q sort with all statements ranked as +5). A Centroid Factor Analysis was applied, followed by a VARIMAX rotation and then a manual rotation using PQRot Software (Schmolck, 1992). Four factors were obtained, and, to apply the Q Analysis, the statistically significant value was 0.26 ($SSV_{2,58} * SE; SE = \frac{1}{\sqrt{n}}; n = \text{statementsnumber}$).



3. Results

Nearly all of the correlations between the resulting factors were negative. These results not only indicate that the factors are different but that they are opposite. A positive correlation between factors 1 and 4 was found. However, its value (0.11) was lower than SSV (0.26) (Table No. 2). Factor characteristics are described in Table No. 3.

Table No. 2: Correlation between factor scores

Factor	1	2	3	4
1	1.0000	-0.1276	-0.1454	0.1187
2	-0.1276	1.0000	-0.4605	-0.0760
3	-0.1454	-0.4605	1.0000	-0.5925
4	0.1187	-0.0760	-0.5925	1.0000

Table No. 3: Factor Characteristics

Factor Characteristics	Factor 1	Factor 2	Factor 3	Factor 4
No. of Defining Variables	5	10	22	7
No. of Distinguishing Statements	30	35	39	31
Average Rel. Coef.	0.800	0.800	0.800	0.800
Composite Reliability	0.952	0.976	0.989	0.966
S.E. of Factor Scores	0.218	0.156	0.106	0.186

Each factor has its own distinguishing statements that define its *personalities*. Each statement was identified by a number. Table No.3 lists the number of distinguishing statements for each factor. The distinguishing statements structure the different discourses.

Each statement has three values: its rank (-5 to +5), Z (a higher Z indicates greater agreement, and a lower Z indicates greater disagreement), and its weight (a lower number indicates greater weight) (Table No. 5). There are also statements that distinguish one factor from another. Table No. 4 lists the five principal statements that distinguish one factor from another.



Table No. 4: Five significant differentiating statements between factors, listed in descending order

Factors contrasted	Identification number of the differentiating statement				
Factor 1 and 2	13	74	71	34	69
Factor 1 and 3	53	1	75	78	34
Factor 1 and 4	8	12	54	20	5
Factor 2 and 3	88	2	40	55	24
Factor 2 and 4	12	20	8	59	37
Factor 3 and 4	13	73	77	54	20

Each of the four factors was considered as an independent discourse. The discourses were characterized as Conservationist (factor 1), Technocratic/Environmentalism (factor 2), Anthropocentric/Developmentalist (factor 3) and Social-Systemic (factor 4).



Table No. 5: Example scores for each statement

STATEMENT	FACTOR												
		1			2			3			4		
		Z	Rank	Weight	Z	Rank	Weight	Z	Rank	Weight	Z	Rank	Weight
	MAX	2.32	+5	1	1.53	+5	1	3.64	5	1	1.92	5	1
	MIN	-2.58	-5	95	-4.19	-5	95	-1.67	-5	95	-2.96	-5	95
Biodiversity is a strategic resource, in order to satisfy human necessities and to guarantee our survival		-0.7	-3	73	1.02	4	12	-0.3	-1	59	0.36	1	39
Human unconsciousness is the cause of páramo and the other ecosystem destruction		-0.72	-3	74	1.01	4	14	-0.36	-2	62	-0.66	-3	73
Nature is a system, so all of its elements are interrelated. Every single life form has a function. That's why their conservation is important, even though we don't know their functions or we don't like a specie		0.19	1	40	0.58	2	31	-1.29	-5	88	0.84	3	18
Future is hard, especially for young people. It is harder for them to access to education or to jobs. There is a lot of		1.09	4	16	0.73	3	23	-0.17	0	50	-1.21	-4	83



inequity, and that produces tensions and intolerance													
Rural population have marginalized from development, because haven't had the capability to articulate the ideas that solve their own problems, and to influence in public policies		-0.43	-2	66	1.27	5	4	0.8	3	21	-0.03	-1	53
Territory is formed by different elements, by a physical conception with its boundaries, by an imaginary notion, and by the belonging feeling that rural population have with their land		0.27	1	35	-1.87	-5	91	-0.24	0	52	1.13	5	13
Urban areas are the spaces where the people gather together, in order to satisfy their necessities, to work, and where natural elements are radically diminished		1.82	5	3	0.23	0	47	0.28	3	31	-0.23	-2	62



4. Discourse narratives

The four discourses that were identified have interesting differences in all of the issues that were studied: nature, territory, landscape, biodiversity, urban, rural and rural-urban relationships. Each discourse has its own way of problematizing these concepts; therefore, their perceptions are distinct. According to Hajer (1995), problems must be created or molded to produce policies that can cope with them. Policies do not act over real phenomena. First, the *real* needs to be processed and transformed into a reality that can be effectively addressed by the society. However, this does not imply that these realities reflect the complexity of the fundamental processes that are causing what was perceived as a problem in the first place. Consequently, policies merely manage their self-created problems. However, this result does not necessarily lead to a resolution of the essential and original phenomenon. It is in this sense that each of the discourses is characterized: the conservationist (hereafter discourse 1), the Technocratic/Environmentalist (hereafter discourse 1), the Anthropocentric/Developmentalist (hereafter discourse 1) and the Social-Systemic (hereafter discourse 1) are all important in understanding how the idea of the ecological crisis is produced, problematized, humanized, systematized and politicized. These discourses represent the foundations that sustain environmental policies in Cuenca.

An interesting discrepancy in the perceptions about the future must be highlighted. Discourses one (Conservationist) and two (Technocratic/Environmentalist) are pessimistic. For them, a continuous deterioration is unavoidable. However, a significant difference between them is that discourse two is pessimistic and nostalgic (*in the past everything was better*), while discourse one is just pessimistic. In contrast, discourse three (Anthropocentric/Developmentalist) has a strong belief and confidence in development. Through development everything will be better. Finally, discourse four (Social-Systemic) is optimistic. It believes in the possibility of a harmonic coexistence between nature and humans.



In spite of discourse one's clear separation between nature and society, it is characterized by the perception of human beings as "just another species which can disappear (i.e., become extinct), as any one of the other species". This discourse worries about the future even though it considers development, and the activities which are assumed to be vital for it (e.g., mining, among others), as fundamental for human existence despite the conflicts and impacts that these activities can cause to the quality of life, human health and the environment. Ironically, these conflicts and impacts are a main cause of concern about the future for discourse one. The society-nature dichotomy goes further in discourse one, it perceives this dichotomy as in an aggressor (humanity)-victim (nature) relationship.

The characteristic nostalgia of discourse two is based on the perception that in the past everything was better. But, in this particular case, this nostalgia refers to an ecological harmony; in the past people were healthier, ate their own cultivated organic and local food, and lived *ecologically*. Clearly, the problem is that current humanity is facing the opposite situation. Solutions are confronting the destructive human unconsciousness, and following scientists' and technicians' recommendations. This discourse has a strong belief in science and technology as sources of solutions.

Discourse three is noticeably different from the other discourses. According to this discourse, human societies do not need nature, and, most importantly, humanity does not depend on nature. This position is consistent with its perception that humans as a species have a greater right to exist than any of the other species, and, furthermore, this discourse rejects the importance of biodiversity for societies and refuses any notion of the importance of biodiversity conservation. Additionally, is interesting to note that this discourse denies any significance or necessity for citizen participation.

Finally, discourse four is characterized by its optimism. It believes that a sustainable future is possible, with a better quality of life, through hard work and citizen participation. This discourse does not perceive humanity as a menace to



nature; in fact, it considers that harmonic human-nature coexistence is possible. Citizen participation becomes in a key issue for discourse four.

4.1. Nature

The idea of nature produced subtle differences in perception between the four discourses. All four discourses perceive nature and human societies as different entities, as different categories of being. Discourses one, two and four perceive nature as a "...system where all of its elements are interrelated, that is why all living beings are important and must be conserved, even though we don't know their functions or we don't like certain species". It is important to note that this statement is strongly rejected by discourse three. This rejection is coherent with the most characteristic statement of the discourse three: "Human beings don't depend on nature, and humanity doesn't need it anymore".

As opposed to discourse three, discourses one, two and four perceive that humanity depends on nature and needs it. A socio-natural conflict is perceived by discourses one, two and four. This conflict represents a paradox for humanity because it depends on nature even though humanity is in a struggle with it. Discourse one identifies human beings as a menace for nature, in contrast with discourse two, which defines human unconsciousness as the main cause of ecosystem destruction. Discourse four, instead of characterizing humans as a threat to nature; defines this socio-natural conflict as a continuous deterioration of the human-nature relationship, particularly evident in urban populations.

Another distinction of discourse four is its definition of nature: "Nature is formed by those elements which have evolved by themselves, driven by ecological and geological forces, without any human intervention". This statement enforces the separation between nature and society.

In this context, nature has been problematized in Cuenca as an external being, which is in conflict with society. The survival of society depends on nature, but nature is menaced by human societies and their development. Nature must be protected, blamed, and dominated, on behalf of humanity's well-being (Kaika,



2003; Swyngedouw and Kaika, 2003; Gandy, 2004; Leff, 2004). However, this nature-society dichotomy sets up the possibility of using nature as a source of crisis (Kaika, 2003).

4.2. Territory

Discourses one, two and three perceive territory as a physical area, while in discourse four's view it is a social construction. In this case, the discordant discourse is number four.

Discourse one understands territory as a particular area with a diversity of landscapes. It is interesting to observe that this discourse highlights a cultural interaction between territory and the rural population. These people develop a feeling of belonging over territory and produce an imaginary concept of it.

Interestingly, discourse two and three agree in their view of territory. For them, the territory is just a physical entity that supports human societies.

Discourse four has a more complex notion of territory, which is one of the main characteristics of this discourse. It perceives territory as a social construction with a systemic view. Its second most accepted statement asserts: "The territory is a social construction, it is much more than a physical space, it embodies social, cultural and economic activities; it communicates with other territories; it is governed by a specific governance model and a particular social scheme; and its boundaries are both physical and administrative". It is important to note that the territory is problematized by discourse four with physical, social, cultural, economic and political elements. This is a sort of systemic approach, in contrast to the other three discourses.

4.3. Landscape

The perception of landscape is remarkably different between the discourses. While discourse one and two perceive it as a physical entity and a part of territory, discourses three and four interpret landscape as a socially generated concept.



In discourse one, landscape is perceived as static. It is like a photo of a part of any natural territory. In contrast, discourse two accepts the human variable. For this discourse, landscapes are dynamic, and they contain both human and natural elements.

Discourse three conceives landscape as a symbolic production. It maintains that landscape is the citizens' view of both their territory and their future. Despite this apparently integrating notion, this discourse rejects the statements that describe human societies as part of the landscape.

Finally, discourse four is consistent with its territory view. According to its perception, landscape is a geographical unit, produced by the human management of the territory. The same statement maintains that landscape is perceived under a diversity of views.

4.4. Biodiversity

The notion of biodiversity is most likely the perception with the greatest variability within the discourses.

Discourses one and four perceive biodiversity with an academic understanding. For both discourses, biodiversity is all of the variation in ecosystems, species and genes, including the cultural variation, but rejecting humans as part of biodiversity. In discourse four, this view is complemented with the idea of biodiversity as the number of species, ecosystems and genes in a region.

Contrasting with this view, discourse two's perception of biodiversity is contradictory. This discourse understands biodiversity as a strategic resource for satisfying human necessities and guaranteeing human survival. At the same time, biodiversity conservation and preservation is sacred. Discourse two's notion of biodiversity is a combination of both ethical and utilitarian approaches. However, the other elements of its biodiversity perception are utilitarian. The technocratic/environmentalist discourse believes that only the important biodiversity areas must be preserved as well as elements of biodiversity that are significant for humanity. Other areas with great biodiversity can be both



protected and rationally used. According to this discourse, biodiversity has been destroyed by human unconsciousness.

In spite of discourses one and four's common ground on the concept of biodiversity, they diverge during the development of their narrative. Discourse one coincides with discourse two's approach to the conservation of biodiversity but, according to this discourse, biodiversity (and its environmental services) has been destroyed by humans' search for easy money. Discourse four also has a utilitarian view: biodiversity conservation is important to guarantee the quality of human life and for human survival. However, it does not identify biodiversity areas (or elements) that must be conserved. This discourse states that biodiversity must be conserved following a communitarian and inter-cultural view.

Discourse three, disregards biodiversity and assigns no importance to it. It exists, but has no relation to humanity, and biodiversity conservation is not relevant. This discourse strongly rejects all of the statements that are related both to biodiversity conservation and the importance of biodiversity for humanity.

Some questions arise from these discourses: Who has the power to define which genes, species, or ecosystems (i.e., ecosystems as an entity) are important? For whom must biodiversity be important? Who has the power to choose which biodiversity elements are significant for humanity? For whom must biodiversity elements be significant? Who has the power to define rational use?

4.5. Urban

Perceptions about the meaning of *urban* reveal the problematization of the urban-rural relationship and the linkages between nature and society. These concepts are different among the four discourses despite any coincidental points of agreement that discourses one and four may have.

Discourse one understands the urban as a constructed and continuous space with a high population density. There, the people live, work, organize



themselves, satisfy their necessities, and demand services. Although discourses two and three have a similar vision, they conceive urban spaces as areas where human population is concentrated; the existence of infrastructure is not an urban characteristic for them.

It is interesting to note that discourse three characterizes urban areas through planning. This discourse believes that in urban spaces everything is controlled and planned. Discourse three conceives the urban as an autonomous entity, an isolated area that has no any links with either the rural or nature. However, this discourse perceives that the urban exploits its own nature and that of other territories but, at the same time, strongly rejects any type of urban-nature relationship or link.

In contrast, discourse four's understanding of the urban integrates it within the landscape: "...the urban) is a landscape unity, defined by human activities and infrastructure. It is a Matrix which depends on nature, but with artificial energy inputs. The urban invades natural spaces".

On the contrary, for discourses one and three, the urban is the human dominion by definition, and it is characterized by the absence of biodiversity. This concept is strongly rejected by discourses two and four. However, discourse four shares the notion of nature and urban as different entities. In fact, it perceives that the urban has few spaces where nature can exist: "There are few areas where nature can be found within the urban space".

Even though they differ in their views of biodiversity and the urban relationship, discourses one and four share a view: the environment supplies services to the urban. However, they remark on a paradox: urban citizens demand high quality services but do not want to "pay the costs of conservation and protection of the environment which supply those services".

Discourse two's perceptions about urban and nature relationships are complex. It does not accept or deny a nature-urban relationship; nevertheless, it rejects the possibility of a relationship based on urban exploitation of nature and the



idea that the urban population could be unaware of the importance of conservation.

Discourses one and two have an intense perception of an urban-rural tension. Discourse one includes a rural marginalization in urban spaces and also an exclusion of the rural within the urban culture. In contrast, discourse two has a metabolic approach; the urban and the rural are strongly linked because the latter nourishes the former. However, rural areas receive almost nothing from urban areas. There is a tacit conflict, then, due to a lack of *metabolic reciprocity* in the urban-rural relationship. Discourse three, in contrast, is aware of the urban-rural tension but faces this topic with less intensity and with another view: the urban population has access to development and the rural population does not.

The idea of *Metropolitan Nature* is fundamental to the understanding of discourses one, two and four. These discourses display a sort of nostalgia about nature. Nature is a space for leisure and landscape enjoyment, where urban populations search for a spiritual link with nature. Instead, to be nostalgic about *metropolitan nature*, discourse three expands upon this idea and believes that: the “The urban population appreciates nature more than the rural population and enjoys the rural more when it visits it”. Discourse four strongly rejects this last statement.

Finally, discourses one and four are aware of an urban-nature metabolic link; however, they believe that the urban population is unaware of this link. Discourse four goes even farther; it explains that this urban unconsciousness is due to the processes of urban acculturation.

4.6. Rural

Discourse one has a vague concept of the rural. However, is important to remark that the statements that physically define the rural are irrelevant for it, as well as those that metabolically link the rural with nature and the urban. In fact, this discourse makes a cultural distinction between rural and urban: while rural is linked to ancient knowledge, urban is linked to science and technology. This



notion implies not only that the rural population does not have access to science and technology but also that ancient knowledge does not reach the urban population.

Discourse two, in contrast, understands the rural based on the urban: the rural is the transition area between nature and the urban. In this sense, rural areas have a double function; they nourish urban areas and protect nature from an urban threat. It is clear that this discourse understands the rural simply due to its relationship with the urban.

Discourse three's concept of the rural is concurrent with its views: rural spaces are just administrative areas. It is important to remark that the statement "the urban and the rural have no relation" is one of the central ideas of this discourse. Consequently, discourse three emphatically rejects the idea that the rural and the urban are mutually dependent systems.

The characterization of the rural is different in discourse four. It defines the rural by the relationship of its population with nature: "The bond of rural population with nature is much more harmonic than the one of urban population. Rural people are part of nature in a spiritual way, as well as due their resources necessities; that's why they safeguard nature". This last statement explains how discourse four romanticizes *the rural*.

In contrast, for discourse two, the destruction of nature is a consequence of the lack of training in land management of the rural population: "In order to have a good land management, to follow correctly the local territorial planning, and to protect nature, the rural people must be trained by technicians". An important conclusion is that this perception legitimizes urban intervention in the rural. It is also interesting to observe that this last statement comes from a rural interview with a woman from an isolated area, demonstrating how deeply this urban perception has penetrated the rural mind. This discourse believes that, in a certain way, the rural must be under the tutelage of the urban because the rural population is the cause of their own situation and they are unable to lead their own emancipation: "Rural people have been marginalized from development because they have been unable to articulate ideas that face their problems and



to influence on public policies". It is evident that discourse two does not take into consideration power relationships.

In contrast, discourse three uses this last statement to legitimize development interventions in the rural. Understanding the rural population as ignorant and a predator of nature, this discourse characterizes the rural as a risk for urban people: "Previous destruction of nature, caused by the untrained condition of rural population, is causing currently resources scarcity" and "Nature areas, which produce the services that are used in urban areas, are sustained and protected by rural people. Rural population is obligated to do so". Discourse three assigns the rural population the responsibility for their own situation again. The rural people have not had access to development because they have been self-isolated and have not solved their own problems. This view is complemented by the idea that rural areas are chaotic and disorganized and that there is no planning. In spite of its strong implications, this last view also supports the idea of the rural as an area of freedom, perceived as the non-existence of rules. Consequently, bringing order and planning to rural areas could be an important source of conflicts.

Discourses one and four are oppose these ideas and radically diverge from this notion. They strongly reject the statement: "The rural is characterized by disorder, there is no any planning, and this is the origin of rural problems. Planning will change this". This rejection can be read either as a disagreement with the rural disorder relationship or as the idea of planning as a solution for rural problems.



5. Sumak Kawsay and the four discourses

Discourses are not freely chosen by people according to their own beliefs. On the contrary, discourses shape and mold people's attitudes and minds (Hajer, 1995). Consequently, the translation of *Sumak Kawsay* into policies and practices requires a deep cultural transformation. *Sumak Kawsay* must be inter-culturally produced and reproduced, problematized, humanized, systematized and politicized.

The inclusion of the *Sumak Kawsay* paradigm in the Ecuadorian constitution (2008) implied a new political way of problematizing development, progress, quality of life, human relationships, socio-ecological relationships and interactions, land, territory, biodiversity, production, and nature, among many other things. Consequently, the Ecuadorian state, at its five governmental levels (Asamblea Nacional Constituyente, 2008), must be transformed to cope with all of these *new* problems.

The four discourses identified in Cuenca are important insights into the way its society produces, problematizes, humanizes, systematizes and politicizes nature, territory, landscape, biodiversity, *the urban*, *the rural* and their relationships. As previously noted, policy-making can be understood as the practice of problem creation, beginning with the processing of fragmented and contradictory statements, which can be handled by institutions (Hajer, 1995). Consequently, these discourses represent the foundations of Cuenca's territorial, environmental, urban and rural policies, and their specific institutional structure.

However, these discourses must be contrasted with *Sumak Kawsay* to evaluate whether this paradigm has been translated into policies.

Sumak Kawsay overcomes the nature-society and urban-rural dichotomies as well as the idea of *metropolitan nature*. In contrast, the four discourses are founded in these perceptions. Furthermore, both dichotomies and the *metropolitan nature* notion have been used in Cuenca to protect and dominate *nature* through local policies and to blame it for *natural disasters*. These



perceptions have allowed the use of nature as a source of crisis and justified specific political and economic decisions, as Kaika (2003) predicted.

In addition, discourses one and two clearly represent two different branches of the ecological modernization discourse, with elements of the orthodox ecological crisis view. They perceive a strong conflict between humanity and nature. Indeed, humans are a threat to nature; for them, nature is an obstacle to human development. This perception is profoundly different from the balance and harmony requirements of *Sumak Kawsay*.

Discourse one separates areas of biodiversity from areas of development and its biodiversity conservation initiatives are framed by this view. In contrast, *Sumak Kawsay* integrates human activities with land and space within its concept of the universe; biodiversity reproduction is not a consequence of conservation initiatives but a consequence of living well.

Science and innovation are very important for discourse two. This view can be confused with *Tinkuy*, which is one of the characteristics of *Sumak Kawsay*. However, there is a profound difference. According to discourse two, innovation happens only within circles of technicians and scientists, and the results are taught to the people in a uni-directional, vertical manner; the *regular* people are not academically prepared to create, propose, and innovate. In contrast, *Tinkuy* is a continuous process that is produced and reproduced by every person in his/her daily life. *Tinkuy* is not only horizontal but is also a two-directional vertical process. Discourse two describes the idea that power should be held by scientists and technicians. Following this path, for this discourse, the destruction of nature is a consequence of the lack of training in land management of the rural population. This perception legitimizes urban intervention in the rural, and this urban perception has deeply penetrated the rural mind. This discourse believes that, in a certain way, the rural must be under the tutelage of the urban because the rural population is the cause of their own situation and they are unable to lead their own emancipation.

Discourse three is similar to the neo-classical economic pro-development view. Humanity's continuous quest for progress has finally overcome its dependence



on nature, and now humanity and urban areas depend just on themselves. It seems that this discourse has no overlap with *Sumak Kawsay*.

Discourse four, similar to the other three discourses, sustains a nature-society dichotomy. But, in despite of this deep difference, this discourse is influenced by a socio-metabolic or systemic thinking; complexity sciences can be recognized in many of its statements. It is interesting to note that due to these characteristics, discourse four is the most similar to the *Sumak Kawsay* concept, among the studied discourses.

As Heynen (2003) asserts, exploring the different notions of nature is truly important to understand economic, political and cultural processes that govern the human metabolization of nature. It is clear that *Sumak Kawsay* has not penetrated deeply into Cuenca's society and public administration. Consequently, Cuenca's policies and their required institutional set up did not originate in the *Sumak Kawsay* paradigm. In contrast, discourse four indicates that Cuenca's society has been questioning itself about socio-ecological relationships and that systemic views are growing. Thus, *Sumak Kawsay* construction in Cuenca is possible, but to do so this paradigm must be deeply discussed through an inter-cultural dialogue in every sphere of Cuenca's society.

Complexity sciences are compatible with *Sumak Kawsay* because they integrate the non-human world and societies in the same system. *Sumak Kawsay* can be interpreted as one of those alternative rationalities that historically internalized entropy, the limits of our planet, socio-ecological relationships and the complexity of human societies. The *Sumak Kawsay* concept demonstrates that the process of deconstructing rationality and constructing ecological lucidity has been happening constantly. It represents the knowledge emancipation that Leff (2004) demanded.

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References

- Acosta, Alberto. 2009. *La maldición de la abundancia*. Quito, Ecuador: Abya Yala.
- Albán, Fernando. 2011. "La utopía republicana, estudio introductorio." In *La utopía Republicana: Textos Políticos*, ed. Fernando Albán, 9–63. Pensamiento Político Ecuatoriano. Quito, Ecuador: Ministerio de Coordinación Política y Gobiernos Autónomos Descentralizados.
- Artiga, Raúl. 2008. "El agua y el medio ambiente en Cuenca, Ecuador." In *El Agua como Recurso Sustentable y de uso múltiple: Políticas para su utilización en zonas urbanas y periurbanas de América Latina y El Caribe*, ed. Julio Moscoso, Oakley Stewart, and Luis Egocheaga, 115–131. Santiago de Chile: Centro Latinoamericano para el Desarrollo Rural.
- Asamblea Nacional Constituyente. 2008. *Constitución de la República del Ecuador*. Quito, Ecuador: Asamblea Nacional Constituyente.
- Barnett, Adrian. 1988. "Rio Mazan-A People's Forest." *The Ecologist*.
- Bebbington, Anthony, Ricardo Abramovay, and Manuel Chiriboga. 2008. "Social Movements and the Dynamics of Rural Territorial Development in Latin America." *World Development* 36 (12): 2874–2887.
- Brown, Steven. 1971. "The Forced-Free Distinction in Q Technique." *Journal of Educational Measurement* 8 (4): 283–287.
- . 1993. "A Primer on Q Methodology." *Operant Subjectivity*.
- . 1998. "The History and Principles of Q Methodology in Psychology and the Social Sciences." <http://facstaff.uww.edu/cottlec/QArchive/Bps.htm>.
- Castellà, Gerard. 2010. "Gentrificación rural y discursos de sostenibilidad en el Baix Empordà: un análisis con la metodología Q". Master Thesis, Barcelona, España: Universidad Autónoma de Barcelona.
- CELEC. 2012. "Generación Eléctrica En El Ecuador." http://www.celec.com.ec/index.php?option=com_content&view=article&id=91&Itemid=269&lang=es.
- Farina, Almo, and Andrea Belgrano. 2006. "The Eco-field Hypothesis: Toward a Cognitive Landscape." *Landscape Ecology* 21 (1): 5–17.
- Fischer, Frank, and Maarten A. Hajer. 1999. "Beyond Global Discourse: The Rediscovery of Culture in Environmental Politics." In *Living with Nature: Environmental Politics as Cultural Discourse*, ed. Frank Fischer and Maarten A. Hajer, 1–20. Oxford University Press.
- Flores, Judith. 2008. *Lucha Social, Herencia Histórica: Una Mirada Reflexiva De La Constitución 2008*. Quito, Ecuador: CONAIE/ECUARUNARI.
- Gandy, Matthew. 2004. "Rethinking Urban Metabolism: Water, Space and the Modern City." *City: Analysis of Urban Trends, Culture, Theory, Policy, Action* 8 (3): 363–379.
- Giampietro, Mario, Kozo Mayumi, and Joan Martinez-Alier. 2000. "Introduction to the Special Issues on Societal Metabolism: Blending New Insights from Complex System Thinking with Old Insights from Biophysical Analyses of the Economic Process." *Population & Environment* 22 (2): 97–108.



- Grove, Kevin. 2009. "Rethinking the Nature of Urban Environmental Politics: Security, subjectivity, and the Non-human." *Geoforum* 40 (2): 207–216.
- Hajer, Maarten A. 1995. *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*. New York: Oxford University Press.
<http://www.oxfordscholarship.com/view/10.1093/019829333X.001.0001/acprof-9780198293330?rskey=AN5JgQ&result=3&q=hajer>.
- Hernández, Maribel. 2009. "Sumak Kawsay y Suma Qamaña, el reto de aprender del sur: reflexiones en torno al buen vivir." *OBETS: Revista de Ciencias Sociales* (4): 55–65.
- Heynen, Nik. 2003. "The Scalar Production of Injustice Within the Urban Forest." *Antipode* 35 (5): 980–998.
- Houtart, François. 2010. "La crisis del modelo de desarrollo y la filosofía del Sumak Kawsay." In *Los nuevos retos de América Latina: Socialismo y Sumak Kawsay*, ed. François Houtart, 91–98. First ed. Quito, Ecuador: SENPLADES.
- IMC. 2012. "División Del Territorio Del Cantón Cuenca | Cuenca Alcaldia." http://www.municipalidadcuenca.gov.ec/?q=page_divisionterritorio.
- INEC. 2011. "Censo Ecuatoriano De Población y Vivienda 2010." http://www.inec.gob.ec/cpv/index.php?option=com_wrapper&view=wrapper&Itemid=58&lang=es.
- Kaika, Maria. 2003. "Constructing Scarcity and Sensationalising Water Politics: 170 Days That Shook Athens." *Antipode* 35: 919–954.
- Kowii, Ariruma. 2011. "El Sumak Kawsay." *Revista Electrónica Aportes Andinos* (28). Revista Electrónica Aportes Andinos: 4.
- Larrea, Carlos. 2006. "Crisis, Descentralización y Desarrollo Local En El Ecuador." In *En Las Fisuras Del Poder: Movimiento Indígena, Cambio Social y Gobiernos Locales*, ed. Pablo Ospina, Carlos Larrea, María Arboleda, and Alejandra Santillana, 119–150. Quito, Ecuador: Instituto de Estudios Ecuatorianos.
- Latouche, Serge. 2007. *Sobrevivir Al Desarrollo: De La Descolonización Del Imaginario Económico a La Construcción De Una Sociedad Alternativa*. Más Madera 66. Barcelona: Icaria Editorial.
- Leff, Enrique. 2004. *Racionalidad Ambiental: La Reapropiación Social De La Naturaleza*. Siglo XXI editores.
- León, Catalina. 2009. *Ecuador: la cara oculta de la crisis: ideología, identidades políticas y protesta en el fin de siglo*. Colección Becas de Investigación. Buenos Aires, Argentina: Consejo Latinoamericano de Ciencias Sociales.
- Lloret, Pablo. 2002. *The watershed council as a mechanism for upstream-downstream cooperation: The case of the Río Machángara, Cuenca, Ecuador*. Land-Water Linkages in Rural Watersheds: Case Study Series. Food and Agriculture Organization of the United Nations. <http://www.fao.org/landandwater/watershed/watershed/cases/ecuador.pdf>.
- Martinez-Alier, Joan. 2003. *The Environmentalism of the Poor: a Study of Ecological Conflicts and Valuation*. UK: Edward Elgar Publishing.
- McKeown, Bruce, and Dan Thomas. 1988. *Q Methodology*. First ed. USA: Sage Publications.



- Neblo, Michael. 2009. "Three-Fifths a Racist: A Typology for Analyzing Public Opinion About Race." *Political Behavior* 31 (1) (March 1): 31–51.
- Nijnik, Maria, Lyudmyla Zahvoyska, Anatoliy Nijnik, and Asa Ode. 2009. "Public Evaluation of Landscape Content and Change: Several Examples from Europe." *Land Use Policy* 26 (1): 77–86.
- Osses, Felipe. 2009. "Consumer attitudes towards food safety labelling information in the UK an application of Q-methodology". Master Thesis, Edinburgh, UK: University of Edinburgh.
- Radcliffe, Sarah A. 2012. "Development for a Postneoliberal Era? Sumak Kawsay, Living Well and the Limits to Decolonisation in Ecuador." *Geoforum* 43 (2) (March): 240–249.
- Ramírez, Franklin. 2012. "Neoliberalismo, estado y cambio político." *Corriente Alterna*.
- Real News. 2012. "Ecuador Creating Alternative to Neo-Liberal Model." http://therealnews.com/t2/index.php?option=com_content&task=view&id=767&Itemid=74&jumival=7866.
- Roa-Avendaño, Tatiana. 2009. "El Sumak Kawsay en Ecuador y Bolivia. Vivir bien, identidad, alternativa." *Revista Ecología Política* (37): 15–19.
- Schmolck, Peter. 1992. "QMethod Page." <http://www.lrz.de/~schmolck/qmethod/>.
- SENPLADES. 2007. *Plan Nacional de Desarrollo 2007-2010*. Quito, Ecuador: SENPLADES. <http://plan2007.senplades.gob.ec/>.
- Swyngedouw, Erik. 2006. "Circulations and Metabolisms: (Hybrid) Natures and (Cyborg) Cities." *Science as Culture* 15 (2): 105–121.
- Swyngedouw, Erik, and Maria Kaika. 2003. "The Making Of'glocal'urban Modernities." *City: Analysis of Urban Trends,culture,theory,policy,action* 7 (1): 5–21.
- Swyngedouw, Erik, and Maria Kaika. 2003. "The Making of 'Glocal' Urban Modernities." *City: Analysis of Urban Trends, Culture, Theory, Policy, Action* 7 (1): 5–21.
- Tortosa, José María. 2011. "Sumak kawsay, suma qamaña, buen vivir." *Revista Electrónica Aportes Andinos* (28). Revista Electrónica Aportes Andinos: 3.
- Vogel, Joseph. 2009. *The Economics of the Yasuní Initiative: Climate Change as If Thermodynamics Mattered*. London, UK: ANTHEM PRESS.
- Whiteside, Kerry. 2002. *Divided Natures: French Contributions to Political Ecology*. USA: Massachusetts Institute of Technology.
- Zografos, Christos. 2007. "Rurality Discourses and the Role of the Social Enterprise in Regenerating Rural Scotland." *Journal of Rural Studies* 23 (1): 38–51.

